

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-025975  
(43)Date of publication of application : 29.01.1999

(51)Int.Cl. H01M 4/58  
H01M 4/02

(21)Application number : 08-177281 (71)Applicant : TOYOTA CENTRAL RES & DEV LAB INC  
(22)Date of filing : 02.07.1997 (72)Inventor : WAKAYAMA HIROAKI  
FUKUSHIMA YOSHIKI  
KOJIMA YOSHITSUGU  
HASEGAWA TAKESHI  
UESHIMA HIROSHI

## (54) NEGATIVE ELECTRODE ACTIVE MATERIAL

### (57)Abstract:

PROBLEM TO BE SOLVED: To provide negative electrode active material capable of giving high battery capacity to a lithium secondary battery and impacting high safety.

SOLUTION: This negative electrode material is used for a lithium secondary battery, and is formed of mechanically mixed carbon particles and lithium particulates. At least one part of the lithium particulates is formed of a lithium carbon complex intercalated with the carbon particles and a carbon material, and the lithium carbon complex and the carbon material are mixed mutually.

## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

(10) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開平11-25875

(43) 公開日 平成11年(1999) 1月28日

(51) Int. Cl.<sup>7</sup>H01M 4/58  
4/02

識別記号

FI

H01M 4/58  
4/02

D

審査請求 未請求 審査請求の意 1 OL (全 7 頁)

(21) 出願番号	特開平9-177291	(71) 出願人	000003500 株式会社豊田中央研究所 愛知県豊田市長久平町大字長瀬字横道41番 地の1
(22) 出願日	平成9年(1997) 7月2日	(72) 発明者	豊田 博昭 愛知県豊田市長久平町大字長瀬字横道41番 地の1 株式会社豊田中央研究所内
		(73) 発明者	榎崎 喜幸 愛知県豊田市長久平町大字長瀬字横道41番 地の1 株式会社豊田中央研究所内
		(74) 代理人	弁護士 大川 宏

続き頁に続く

(54) 【発明の名称】 炭素活性炭質

(57) 【要約】

【課題】 リ튬 (Lithium) 2차 전지에 비싼 전지 용량을 갖게 하다 것으로 너무도 상, 비싼 안전성도 부여할 수 있는 음극 활물질을 제공한다.

【해결 수단】 본 발명의 음극 활물질은, 리튬 (Lithium) 2차 전지의 음극에 사용된 음극 활물질이고, 기계적으로 혼합된 탄소 입자와, 리튬 (Lithium) 미립자와, 로 되고, 그 리튬 (Lithium) 미립자의 적어도 일부는 그 탄소 입자에 인타카레트 되어 있는 리튬 (Lithium) 탄소 복합물과, 탄소 재료와, 로 되고, 그 리튬 (Lithium) 탄소 복합물과 그 탄소 재료가 혼합되고 되는 것을 특징으로 한다.